

OLDEST BEE PAPER IN AMERICA

# THE AMERICAN BEE JOURNAL

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DEVOTED TO SCIENTIFIC BEE-CULTURE AND THE PRODUCTION AND SALE OF PURE HONEY.

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#### Hints for a Beginner.

Mr. W. D. Smyser, Nineveh, Ind., under date of Dec. 9, writes that he has three colonies, partly prepared for winter, and wants the best method of treatment at this late date. He asks, "Ought bees to roar if they are all right? I have one colony that I can hear roar in the gum down through two feet of chaff. Will it do to look at them in cold weather? Must they be kept shut up during the cold days of spring?"

If weather is warm enough to allow the bees to fly freely, the following will be the best course to pursue: Construct a box six inches larger each way than the hive; put in about four inches of chaff; cut a hole in the side opposite the entrance; set the hive in the box, and put in a wooden tube to connect the entrance with the hole in the side of the box, to allow the bees to go in and out at all times, and to supply fresh air; pack chaff inside the box around the hive; remove the cover of the hive, and spread two or three thicknesses of old gunny cloth, carpet or drilling over the bees, fill up the box, over the hive, with chaff, put a cover on the box to keep out rain and snow, replace where the hive formerly stood, and the work is done.

If the weather be very cold the quickest, and perhaps as safe a plan

as any, will be to stand cornstalks around each hive, being careful to turn over and bind the tops, to keep all dry inside. Great care must also be taken to part the stalks at the foot, opposite the entrance of the hive, to afford an opportunity at all times for an unobstructed flight.

In the methods advised above, we make no recommendation regarding the interior of the hives, for, with the season so far advanced, and the liability of a change in the weather from one extreme to another at any moment, any unusual disturbance of the cluster will be attended with risk, and no plan should be attempted which cannot be accomplished without the knowledge of the bees. Bees should not be "looked at" nor otherwise disturbed in cold weather, and should be left with their winter preparation till settled weather in spring. The entrance should never be entirely closed, and should it become closed with dead bees, they should be gently drawn out with a bent wire.

In view of the advanced season, the unusually favorable weather heretofore experienced, the general prevalence of an abundance of good, wholesome honey, and with our present impression regarding the remainder of the winter to come, with strong colonies of bees, we should experience but little uneasiness even though we had been wholly derelict in preparing them for a long, cold siege; and we would not be at all surprised if the majority of loss this winter was the result of well meant, but injudicious kindness, in contracting too much and packing too warm, thereby causing restlessness, or inducing flights when the temperature of the atmosphere would not justify it. Up to this date (Dec. 16) the winter has been unusually propitious, the bees have had numerous flights at favorable intervals, and indications of dysentery or other disease are very rare.

The roaring referred to by our correspondent, is occasioned by packing too warm, obstruction of entrance, or jarring and frightening the bees, and is very unfavorable.

After New Year's day, money-orders are to be exchanged between the United States and the Australian colonies. The change will greatly facilitate commerce.

The BEE JOURNAL of next year will be stitched, the edges trimmed, and each number will have 16 pages.

**Honey as Medicine.**—On page 402, may be found a recipe for Cough Syrup, from Dr. Tinker, who says it may not be advisable to introduce any medicinal matter into the BEE JOURNAL. We think otherwise, however, for we believe that pure honey is not only excellent food, but invaluable as medicine. The Doctor says:

"Much of this preparation has been used here with highly satisfactory results, and it has been the means of selling several gallons of extracted honey."

We have sent the Doctor a copy of our pamphlet on "Honey as Food and Medicine," which we are pleased to know has done much to popularize honey as medicine as well as food in many localities.

**How to get the Weekly Bee Journal free of cost for 1882.**—Until further notice, any subscriber who desires to obtain a good book on apiculture, can have either Cook's Manual, Quinby's New Bee-Keeping, or Novice's A B C, bound in cloth, postpaid, and the Weekly BEE JOURNAL for one year, for \$3.00; or with King's Text-Book, or Blessed Bees (a romance), bound in cloth, for \$2.75. The JOURNAL and all five books for \$6.00. This is a rare chance to get a good library on bee-keeping. A person can sell the books for their published price, \$6.00, and get the Weekly BEE JOURNAL free for his trouble.

Those having already paid for the Weekly BEE JOURNAL for 1882 may send for the books alone and deduct the \$2 already sent for the JOURNAL.

If any numbers of this year's BEE JOURNAL have been lost, look them over at once and send us a Postal Card stating the missing numbers and we will send them free, as long as we have any left.

Binders cannot be sent to Canada by mail—the International law will not permit anything but samples of merchandise of less weight than 8 ounces. Canadians will please remember this when ordering Binders.

Look at the wrapper label and see that proper credit is given for money sent us, within 2 weeks. If it does not then appear, please send us a Postal Card, and we shall with pleasure make the correction, for an error may occur during the rush at this season, though we endeavor to be careful to always give proper credit.

**Doolittle's Club List, and Catalogue** of strawberry and raspberry plants, grave-vines, potatoes, etc., is received. It is printed by Mr. A. I. Root, and makes a very creditable appearance. Mr. Doolittle states that he has been engaged by us to write 20 articles during the year 1882 for the AMERICAN BEE JOURNAL, and adds:

The Weekly AMERICAN BEE JOURNAL for 1882 will contain 16 pages of 3 columns each, which enlarges it one-third, as well as securing for it a more attractive form, thus making it more valuable than in 1881, and placing it at the head of all bee journals in the world. As friend Newman prefers to have the BEE JOURNAL omitted from all clubbing lists, we have left it out. However, if you wish to send your subscription to us, when sending for other papers, we will forward the \$2 to Mr. Newman free of charge.

On the AMERICAN BEE JOURNAL and *Gleanings* Mr. Doolittle can make no deduction. On all other bee papers the price is "cut," more or less. We do not approve of the practice, and, sooner or later, it must be abandoned by all papers that are worth their subscription price. Any deduction given to an agent, is intended to pay for the time and trouble of procuring the club, and should never be used to "undersell" the publisher.

The **Apiary Register** will be ready to send out early in January.

It devotes 2 pages to each colony, embracing between twenty and thirty headings, neatly ruled and printed, with space at bottom for remarks, and so arranged that a single glance will give a complete history of the colony. Each book will also contain printed rules for the apiary, and twelve pages ruled and printed for an apiary cash account. As each book is intended for a several years' record, it is gotten up on first class paper, and strongly bound in full leather covers. There will be three sizes, sent postpaid, at the following prices:

For 50 colonies (120 pages).....\$1 00  
" 100 colonies (220 pages)..... 1 50  
" 200 colonies (420 pages)..... 2 00

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones to procure at the start. We have added these to our new Premium List for getting up Clubs for the BEE JOURNAL, as will be seen on page 407.

Send in your orders at once, and the books will be forwarded as soon as completed.



## CORRESPONDENCE

For the American Bee Journal.

### Mr. Heddon and "That Coming Bee."

E. L. BRIGGS.

While reading Mr. Heddon's article in the last JOURNAL on "That Coming Bee," I was peculiarly struck with that beautiful, graceful smile which lighted up his countenance, or rather his "pen," at the method of Mr. Briggs, in the late prize effort in procuring the best stock of queens to breed from. After saying: "While I sympathize with the end in view, I must say that the method he employs to reach it causes me to smile with my pen, and is not at all the one I follow, advocate or believe in." He says, "I will explain."

As Mr. Heddon had been compelled, forced, urged by his pent-up forces, and drawn out by his sense of the public good, to utter the above important dissent to Mr. B.'s method, will he please to tell us what method "he does follow, advocate, and believe in?"

Well, here is the response: "First, let us consider the four points of excellence that Mr. B. makes the test: 'The largest in size, herself, and producing the largest worker progeny.'"

Mr. Heddon does not "follow, advocate or believe in" procuring the largest queens and workers at all, for he continues: "I have seen small queens that produced large, gentle and industrious workers, and such queens should not be reckoned as second-class." Therefore, the "first smile was penned." Mr. Heddon has smiled with his pen, therefore, if bee-keepers want the largest bees, such as can work on red clover, they should get one of the smallest queens whenever they buy a queen, for remember Mr. H.'s experience—remember his smile! He don't "believe in, advocate or follow" the method of breeding the largest queens for the largest workers.

Second. Producing the brightest colored workers. Mr. H. pens his second smile and dissents as follows: "The experience of the most extensive importers and honey producers is, that the dark Italians are superior to the bright ones." Therefore, as Mr. H. does not follow, advocate or believe in producing light-colored bees, when you desire queens, order small dark ones; it will be so much more convenient for any one to fill your orders without any question arising afterward as to the purity of the queens you receive.

Third. "Producing a progeny the most peaceable in handling, and adhering to the combs the closest." After saying he does not follow, advocate or believe in my method at all, it seems a little singular to hear him say, "We agree exactly about the peaceableness, but I consider the adherence to the combs of minor consideration compared with other points of merit." Well, it makes me glad to find that Mr. H. and myself are in exact agreement on this third point of excellence, for I, too, deem adherence to the combs of minor importance, as compared to some other points. For instance, industry, size, prolificness and gentleness. Yet it is very convenient and agreeable while handling a frame, not to have the bees rush to some corner of the comb, ball up there, and tumble off in a mass upon your boots, or the ground, and from thence crawl up your ankles and legs, especially if they get next to the skin. My smiles are apt to all vanish on such occasions. Nor is it much more agreeable to have them take wing as the dark, brown and hybrids do, and dab into your neck, eyes and ears every second or two. So, whether of major or minor importance, I choose to cultivate for instinctive and tenacious adherence to the combs while handling them.

Fourth. "As far as it can be ascertained this fall, the most prolific breeder, and honey gathering offspring." Mr. Heddon again dissents to the first named quality, "prolific breeder," but agrees with the latter, "prolific honey gatherers." I always smile with gladness, when, at the beginning of honey harvest, I find my apiary consisting of colonies from which are pouring out and in tens of thousands of large, golden, industrious, gentle and vigorous honey gatherers, and nurses of the brood of a queen which keeps every vacant cell filled with eggs, larvae or bees ready to issue. But here are his somewhat contradictory remarks: "I deem it a great mistake in bee-keepers to cherish and encourage this quality of prolificness." \* \* I find that the most profit lies in using a hive of that size that the very moderately prolific queen always keeps full of brood. Small hives for surplus." But this is the hive question, Mr. Heddon, and not the queen-breeding qualities. But even then it is a good thing to have this "very moderately prolific queen" keep her hive "full of brood," as admitted above.

To sum up, Mr. H. follows, advocates and believes in—1. Small queens. He has seen some which produced large workers. 2. Very dark queens. "These are superior to bright ones." 3. Very restless bees and queens while being handled, is a matter of minor importance. 4. "Very moderately prolific queens," because they can only fill small hives. 5. He agrees that the honey gathering instinct and peaceableness are qualities rather desirable, but he does not follow, advocate or believe in my method of procuring mothers of such instincts to breed from.

It was precisely because Mr. Heddon and some others were not "following, advocating and believing" in the method of breeding only from the very best selected stock, from among the very best variety of bees, that I chose the method I did to get a half dozen of the very highest grade of queen bees from among the Italian race, to be found in America or elsewhere. I could have sent to Mr. H. or any one else, and procured haphazard queens, such as described, for a couple of dollars each, and when procured, they would not have been as good as those I had already, in one case in ten. But the result was, in five cases out of the six, I received a superior queen—selected by her breeder with the special idea of out-ranking all her competitors.

So confident am I of its successful result, that I hereby offer a prize of \$20 for a queen sent me by any one which will out-rank the ones I have received in the several points named, provided that if she falls below, the sender receives nothing for her, as a price, for I do not wish to be bothered with inferior stock in receiving and inserting and caring for them when no better, or not even as good as my own.

In conclusion, I give Mr. Heddon my very best bow and smile, in return for his criticism, and hope he may pursue that method which will result in producing "that coming bee," which can work freely on red clover, be the gentlest to handle, and the greatest honey producer in the world. Wilton, Iowa, Nov. 17, 1881.

## SELECTIONS FROM OUR LETTER BOX

**Honey Cough Medicine.**—The following is a recipe of a valuable remedy for obstinate coughs. It is especially valuable for long-standing coughs in elderly people, and useful in all cases unattended with a hot skin and very frequent pulse: Extracted honey; Linseed oil; Whisky, of each, 1 pint; mix. Dose,—one tablespoonful 3 or 4 times a day. DR. G. L. TINKER. New Philadelphia, O., Dec. 6, 1881.

**Comb Honey in Sections.**—Will Prof. Cook please give in the Weekly BEE JOURNAL the new method of obtaining section honey explained by him to the Michigan Central Convention, and given in report of same in the BEE JOURNAL on page 382.

J. C. THOM. Streetsville, Can., Dec. 5, 1881.

**Every Number Worth a Dollar.**—I send the money for the Weekly BEE JOURNAL for the next year. I would not lose any number for a dollar bill. D. HIGBEE. Avoca, Iowa, Dec. 9, 1881.

**Labeled Pure.**—I have tried to practice the teachings of the JOURNAL, I love so much, and find it pays to warrant every pound of honey I sell to be pure honey. I did this last year, putting on labels, and I think from the way my old customers return, and new ones ordering honey, that it gave good satisfaction. I have not been able to supply one-half of our home demand. JOHN MEADER. Delaware, Iowa, Dec. 13, 1881.

[You are quite right; it does pay to warrant all your honey to be the genuine and pure article, and to label it so. It inspires confidence, and aids the general work of increasing the demand for and consumption of honey. —ED.]

**Bees in Fair Condition.**—Bees went into winter quarters here in fair condition. Last fall I had 21 colonies of black bees; had 5 left in spring; have 10 now, 5 of them Italians. Success to the BEE JOURNAL. THOMAS J. WARD. St. Mary's, Ind., Dec. 13, 1881.

**Four Years' Experience.**—In the spring of 1878 I bought 3 colonies of bees—1 in box and 2 in movable frame hives: I increased them to 6, caught 1 wild swarm, and bought and sold some in the winter. I began the spring of 1879 with 10 frame and 3 box hives; the latter swarmed 7 times, and gave but little honey; the 13 averaged 63 lbs. per colony; from one I obtained 126 lbs., and from another 112 lbs. I think I increased to 22, and sold down to 16. In the spring of 1880 I sold 1 and exchanged queens for 1, as I was interested in Italianizing all around me. This was the no-honey year, and I reared and sold queens enough to pay expenses. I winter in a cellar, and my loss has been 1 colony and 1 nucleus, which starved through my neglect last winter. My bees showed some signs of dysentery, but came through in good shape; I took 17 out of the cellar, and before honey began to come in I had sold down to 10 extra good colonies. It was dry here early, and bees did not begin in earnest till about June 10, when it was lively; it made me smile to see the little fellows bring in the nectar. From my 10 colonies in the spring I obtained 1,640 lbs., or 164 lbs. per colony, about  $\frac{1}{2}$  extracted, and the remainder comb without using separators, the most of which I can pack in crates. I used whole sheets of foundation. My best yields were from my best Italians; 1 colony giving me 237 lbs. of comb and extracted, another 146 lbs. of comb, and a third 68 sections  $5\frac{1}{2} \times 6\frac{1}{4}$  of comb honey. The last colony I divided, and with its increase gave me 105 sections. Others done quite as well; I had to extract from the brood chamber to give the queen room. I increased to 17 colonies and 3 nuclei, which I put in the cellar on the 14th inst. I have tried the Cyprians some, and can see nothing superior in them except prolificness. Unless I was working for bees instead of honey, I can see no advantage in them. A good portion of the time this summer, there was brood in the 9 frames, and some that had on second stories laid in 2 or 3 frames there. I will try all the races, but shall breed most of my queens from my best Italian stock. R. GAMMON. Rockton, Ill., Nov. 22, 1881.

**Feeding in Winter.**—Please let me know through the BEE JOURNAL the best way to feed bees in the winter—whether candy made of A sugar or syrup? I have a colony I think I will have to feed. R. P. WILLIAMS. Goldsmith, Ind.

[If in a good cellar, or if at the time of feeding the weather be so warm that the bees can put the feed where they can use it, then thick syrup will be best; but if too cold, then use the candy, laying  $\frac{1}{4}$  inch square sticks on top of the frames, the candy on these, and carefully covering with blanket, mat or quilt. The exhalations from the bees will moisten the candy so they can consume it. Give them sufficient to last till moderate weather, as the candy will attract all the bees to the tops of the frames, and they cannot be again fed without much disturbance.—ED.]

**Good Honey Crop.**—I lost all of my bees last winter except 5 colonies; they were rather weak. I lost the first swarm; then I divided, and with the addition of one new swarm increased to 12. They gathered in all 1,000 lbs. of honey. I packed them in leaves and cornstalks for the winter. E. C. CRANE. Burlington, Iowa, Dec. 12, 1881.

**Better than Bee-Books.**—I have carefully filed every number of the BEE JOURNAL for the past 2 years, and will have them bound. They are really better than bee-books, and I do not see how a bee-keeper can get along without the Weekly. Send it along for next year, and next, and next; yes, as long as I live and keep bees I shall want the AMERICAN BEE JOURNAL. B. F. CARROLL. Dresden, Tex., Dec. 12, 1881.

**Alfalfa Clover.**—Is alfalfa clover a honey plant, or do bees gather honey from it? A. S. EDSON. Brooklyn, Mo., Dec. 12, 1881.

[Yes; it is said to be an excellent honey producer, but we have had no experience with it, and cannot speak from personal knowledge.—ED.]

**Bee-Keeping in North Carolina.**—There are about 300 colonies in frame hives in this county, but no intelligent management, as our people will not read. I commenced the spring with 36 colonies, increased to 50, and took 2,300 lbs. of honey, mostly extracted. I sell in Baltimore at 12 to 15 cents per pound for extracted, in tin cans, mostly in 3 and 6 pounds. I have purchased 15 colonies from a neighbor, and will buy more. I expect to commence the spring with 75 colonies. We have not as good honey resources as in some of the Northern and Western States, our season of surplus commencing about April 15 and ending June 1st; but in good seasons we get a fair yield of honey, and then we are free from the fussing and fearful losses attending wintering as in the colder Northern climate. So, upon the whole, there is nothing to prevent the intelligent bee-keeper from making the business pay at least moderately well. Clinton, N. C. W. P. WEMYSS.

The Nebraska State Bee-Keepers' Association will hold its annual meeting in Ashland, Neb., on the 12th and 13th of January, 1882. A cordial invitation is extended to all who are interested in bee-culture. Members will be returned to their homes by the railroad companies at 1 cent per mile. T. L. VONDORN, Pres., Omaha. G. M. HAWLEY, Sec., Lincoln.

The eastern New York Bee-Keepers' Union Association, will hold their ninth Convention, Tuesday, Jan. 10, at 10 a.m., at Central Bridge, Scho. Co., N.Y. W.D. WRIGHT, Pres. N. D. WEST, Sec.



## CONVENTION NOTES

### Michigan State Convention.

The 16th annual meeting of the Michigan State Bee-Keepers' Society, was held at Battle Creek, Mich., on Dec. 8, 9, 1881. Pres. Prof. A. J. Cook in the chair. The Secretary not having arrived, Mr. H. D. Cutting was appointed Secretary *pro tem.*, who read the following on

#### How to Maintain the Purity of Italian Bees.

The superiority of the Italian bee over our native black or German bee is so well established, and so well known, that it would be superfluous for me to speak of any of their good qualities.

The introduction of the Cyprian and Syrian bees has also proven that the Italians are the best bee known to the American apiarist, and we doubt that they have any superiors in the world, or any equal to them. All we have to do is to maintain their purity and improve their good qualities to the highest standard of excellence.

#### How shall we accomplish this?

It is generally admitted that Italians are not a fixed race. This is well established by the irregular markings of the queens and drones, and I have no doubt there are different grades of purity among them, as I have had Italians breed uniform queens and workers, but very irregular in the markings of their drones. I have had other colonies of Italians that gave no uniformity in any of their progeny, the workers having 3 to 5 yellow bands. These are the most prolific breeders and the greatest swarms.

As to the breeding of Italians to the standard of purity—three or more yellow stripes, is quite easily managed where only blacks and Italians and their hybrids abound, as we can continually supersede all queens that produce workers with less than three yellow stripes.

In the parts of our country where the Cyprian and Syrian bees have been introduced, Italians cannot be bred pure with my degree of certainty, as those races of bees are said to be about the color of ordinary Italians, or perhaps yellower.

If they are (as some assert) more yellow than the ordinary Italian, we could not condemn an Italian queen because she produced workers with more than three yellow bands, because Italians with 3 to 5 striped workers were plenty in this country before the introduction of yellow bees into this country or Italy.

I would recommend that all parties having those new races of yellow bees, at once completely supersede them by the best strain of Italians which they had before they introduced those races, or by purchasing breeding queens from reliable breeders where they have not been introduced. To all others I would recommend the latter course.

What are we to do about imported queens from Italy? I understand those new yellow bees are introduced there. If we import queens from Italy, we shall experience the same difficulty in testing their purity that we have in breeding them together here.

I would urge our Italian friends to at once supersede those new races of bees, as I have just recommended our Americans to do, and I think, or hope, they will not have much demand for their queens in America. The introduction of those new races of bees has proven anything but a blessing to the apiarists of America. I am not disappointed; I expected no better results.

Now if we expect to maintain purity in our noble Italians, we must procure our breeding queens from the best sources possible in this country or Italy.

By proper care in selecting our breeding stock, we may not only keep

our Italians pure, but improve their already superior qualities.

Palo, Mich.

S. K. MARSH.

Prof. Cook thought that this judgment was too hasty, as the good qualities of the Cyprians and Syrians should not be overlooked. He thought that Mr. Jones had done a great thing for the bee-keepers, in giving them an opportunity to compare the different races.

Mr. Haikes had three varieties, and preferred the Syrians, but was not yet ready to pronounce decidedly in their favor.

Mr. Cobb offered a resolution that the Convention disapprove of the sentiment expressed in Mr. Marsh's paper. Carried.

Mr. D. A. Jones then addressed the Convention as follows, on

#### The New Races of Bees.

Years ago I became convinced that black bees were inferior to Italians, and as I was always determined to have the best, I purchased from many of the best and most noted American breeders and importers; I also imported, myself, and while the black bees appeared to be a pure race, the Italians appeared to differ greatly in many respects. I found that I could select and breed in almost any direction, especially dark and light; that there were great differences in color and quality; that there must be a mixture somewhere, and that the Italians were not a pure race; although superior to black bees, I found as much difference in their wintering qualities as I did in their honey gathering qualities, or strength of colonies. Hearing that the Cyprians were a superior race, and seeing no chance of securing them in their purity otherwise, I decided to shoulder the responsibility of importing them, and employed Mr. Frank Benton of your State (who is well and favorably known to many of you as a reliable and enthusiastic beekeeper), then, going personally to Europe, Asia and Africa, enduring much hardship and at great expense, succeeded in landing safely in America, Cyprian and Syrian bees in their purity. The first season I did not test them sufficiently to decide their qualities thoroughly, yet I was much pleased with them.

Being absent from home so long in the East, and then having my islands to select and breeding establishments to arrange, and then I was too busy to give them as close attention as I would have liked to, but as I keep trained and thoroughly practical bee men and close observers, I was assisted much in noting their characteristics. We first observed their wonderful prolificness over Italians or blacks; in fact, the Syrian queens lay an incredible number of eggs in a day. I was more favorably impressed with the Syrian bees than the Cyprians, even in Palestine, as I found them there traveling such incredible distances for honey, although the Cyprians will travel much longer distances for honey than the Italians or blacks, besides, they fly much faster.

The Syrian bees will fly as far, empty themselves and return for another load in about 13 minutes, as Italians or blacks do in 17 minutes, and Cyprians are not much behind them in speed of flight; besides being swift in flight, they are less liable to be knocked about by storms and wind; they are more sensitive, or possess greater knowledge of atmospheric changes, and return to their hives before the storms with wonderful rapidity and exactness.

I was unable the first season, owing to my late arrival from the East, to test their honey gathering qualities fully, but found them breeding four times as much as others late in the season, and yet kept their hives stored with as much and more honey than others, thus showing their ability to gather sufficient for extensive brood-rearing and storing equal to others.

Now, as winter appeared, I placed one small colony of the Syrian bees in a hive, and two stronger ones in a way

that their wintering qualities outdoors might receive a severe test, arranging Cyprians, Italians, hybrids and blacks in a way that I might note facts. Now for the results: A black colony, by far the strongest, wintered worse; hybrids and Italians about equal; Cyprians wintered better than Italians, hybrids or blacks, and Syrians better than the Cyprians. Now, one swallow does not make a summer, nor one test form proof positive, in my opinion. Now for spring: I found them last spring building up stronger and earlier than any others. One quart of Cyprians or Syrians, especially the latter, will build up and be stronger when white clover blooms, than 3 pints or 2 quarts of black or Italian bees, in fact, they spread out and breed so fast that if a cold night occurs, the entrances should be closed to prevent the brood from chilling. Now this year has more firmly convinced me of their ability to gather large quantities of honey. If they can gather more honey, besides breeding doubly as much, does that not prove that if their honey was not used in brood rearing, they would nearly double their rivals in honey gathering? There is no trouble in coaxing them into the boxes for box honey. They will gladly welcome any place where they can carry the honey out of the way of the brooding; they will work in boxes and sections when no others will; they build more queen cells and care better for them than either Italians or blacks.

In one instance I recollect, a colony that I took from Mount Lebanon, carried it to the coast in a water jug, and thence by steamer to Larnaca (my Cyprus apiary), and, to my astonishment, I found in the native hive when I went to transfer it, no less than 60 young queens all crawling about lively in the hive, and about 180 nice, large queen cells just ready to hatch, showing that they must have constructed nearly 250 large, fine and well-developed queen cells. They worked well on red clover this year, and would almost stand on their heads trying to press their proboscis down further to get the honey from the bottom of the clover tubes. They have no equals as energetic workers, and are both moth and robber proof. I have a very large number of Syrians and Cyprians, both imported and home bred wintering, and will carefully note results. They are more sensitive and require care in handling, for, if aroused, they show the same energy that they do in other respects—not to be beaten.

I had one colony of Cyprians that was decidedly cross, and on two occasions after they were aroused by improper management, they forced me to walk away from the hive until they settled down. I had from 2 to 300 colonies in my home apiary in the very center of the town, and on the corner facing the two principal streets, with nearly all the stores facing my bee yard, and also a hotel—the bees within 30 feet of both main streets, and millions flying over the heads of people and horses passing, and I have not known one instance where any one was stung.

Thus far my preference is for the Syrian bees over all others; they are more prolific, wonderful breeders, superior honey gatherers, and so far, have stood the winter best.

Mr. A. I. Root said that there is a great diversity of opinion concerning the new bees, but they are gaining in favor. They are exceedingly prolific, and very good honey gatherers.

Mr. Harrington's experience with the Syrians was similar to the last speaker's. He had found that queens fill a comb before leaving it. They would not attack if not disturbed; young queens are very active.

Mr. Jones. The Syrians are so rapid in their motions that they are difficult to introduce to colonies of other varieties. Fertile workers are more often found in colonies from queens that had themselves been good layers.

Mr. A. B. Weed then gave the following address on

#### Shall We Continue to Import Italian Queens?

I assume that the same laws underlie the breeding of bees as of other animals, and since our knowledge of facts relating to the breeding of bees is limited, I will draw conclusions, based in a measure upon the broader bases of the recognized laws of stock breeding.

The most easily understood of these laws is "like produces like." All through the realms of nature there seems to be a constant struggle between uniformity and variety. We never find two of anything exactly alike, although their general characteristics may be the same. At first sight it seems as if nature was at variance with herself, but investigation shows that her laws are working in harmony, and if understood may be controlled. Their apparent discord is explained, the influences at work, the obstacles to be overcome, and the objects to be attained are understood.

To understand the elements which go to make up an animal, it is necessary to know, not only its parents, but their ancestors also. The further back our information extends, the more satisfactory it is. The progenitors of an animal vary, and the animal may resemble any one of them. In case it does not resemble its immediate parent, but is like a remote ancestor, it is called a sport. Here we see nature following the law of uniformity, and yet its effect is sometimes variation. This resemblance to a remote ancestor, or atavism, as it is called, is one of the most important factors in scientific breeding. It can be readily seen that the larger the proportion of progenitors we have in a pedigree which have the traits we are endeavoring to obtain, the greater will be our success. Pedigree is the main dependence of the breeder; it is variation which gives opportunity to make selection of breeding stock.

It is here that the skill of the breeder is especially required, and it is upon this that his success largely depends. Whether selection had best be made by the breeder, or the mating of animals be left to their own choice, there seems to be a difference of opinion. By some, it is held that by the latter process, the poorer specimens will be culled out, and only the superior ones left to perpetuate the race. This theory almost recommends itself at first sight; but upon careful search, I can find nothing to support it; the burden of evidence is opposed to it. In every instance, as far as I can find, a carefully bred animal is superior to its prototype in the wild state. I think that the reason of this fact, if it is a fact, is that man selects more carefully than does nature, and with a definite aim; and his choice breeding stock is guarded from accidents. Also when an advance is made it is retained. Man selects more closely than does nature. When she has a hundred specimens, she rejects perhaps half of them. In a similar case, man would use but a single one. If the queens which are to stock our hives are to be carefully bred, and not taken at random, the question follows, who shall breed them?

It is generally held by breeders that the proof of long-continued, careful breeding, is to be found in a uniformity of offspring; also that a diversified progeny indicates a diversified ancestry. If this test were applied to the queens which we receive from Italy, it would show them to have black blood, and to be the result of careless breeding. There are breeders among us whose queens are uniformly good and well-marked. In every instance, as far as I can find, these men have kept the same strain of blood for a series of years, and made careful selection in each generation. There are apiarists with whom I am acquainted, who would not breed from a queen that was not better than most of those imported.

It is sometimes said that we must continue to import only until the majority of the drones throughout the country are of the desired race. Even if it were not true that we can rear



our drones as well as our queens, that time seems to be nearly, if not quite here. Italian blood is widely disseminated through the country, and many of the so-called wild bees are now in part, or wholly of this race. Says Mr. A. I. Root, in speaking of the character of the bees which he is buying promiscuously through the country: "I have frequently purchased colonies during the last few weeks as nicely marked as any in our apiary. These, too, came from those who have never taken any notice of Italians at all."—*Gleanings for Aug.*, 1881, page 401.) I have quoted Mr. Root here, as his experience is so large, that his testimony is valuable.

It is thought by many that in-breeding is injurious, and that it is necessary to go frequently to the original source for fresh blood. As to just what in-breeding is, I can find no exact definition; it is generally agreed that by it is meant the breeding together of relations, but just how close the relationship must be to deserve the term, our practical breeders have not determined. Sometimes when degeneracy or disease follows close breeding, they are believed to have been caused by it, whereas they might have existed otherwise. In-breeding has been an indispensable aid in establishing our best breeds of domestic animals. Their pedigrees show it to have been carried to a very great extent, yet they are the most valuable animals we have. Even if fresh blood were desirable, it seems doubtful if we could get it from Italy, as the stock which we have now was originally from that source.

I know of no better way to improve our bees than that followed by the breeders of larger stock. During the last 20 years that apiarists have been importing their bees, the other breeders have been diligently improving their animals by selection, importing comparatively but little. The improvement that they have made, we all know is very great. The stream has risen above its source, and shipments of breeding cattle from this country to their original homes are actually taking place. I think that it is not too much to say that America leads the world in live stock. Some Americans who have acted with care and intelligence, together with good judgment in breeding their bees, have obtained valuable strains, but I do not think that improvement has been general. The stock of those who have depended upon importation, has not been improved in this way, but necessarily represents that of the country from which it came.

I can find no evidence that Italy has improved her stock during this time. I think if we had kept pace with the breeders of larger animals, that it is safe to say that we would be inestimably in advance of where we are now. If this view of the subject is right, importation is carried on not only at the cost of money, but also of all possibility of improvement.

Mr. A. I. Root thought that if bees were bred carefully that they would be so valuable as to command almost any price.

J. H. Townley thought that almost anything could be done with them by selection.

Mr. Walker had found Southern bees larger than those reared in the North.

Mr. Jones had obtained very large bees by having them bred in extra large cells.

Sweet and alsike clovers were recommended, especially on sandy soils.

Mr. Root had Italians on red clover and blacks on buckwheat at the same time.

The President believed that importations should be continued.

#### AFTERNOON SESSION.

On assembling, Mr. H. D. Cutting gave the following address on

#### Bees and Grapes.

I am well aware that much prejudice exists in the minds of some horticulturists in regard to bees doing damage to their grapes and other fruits.

I have talked with many fruit men who say: "The bees swarm on my grapes and destroy large quantities of them." Others say: "The bees swarmed on my fruit, but I found they were after damaged fruit, and did not touch any fruit that was sound."

About five years ago I commenced a series of experiments to ascertain whether bees did damage grapes and other fruits. I found that the bees would work on grapes, if in a damaged condition. I found that the wasps and birds did the damage in many cases, and then the bees would finish up their work. Great changes in the weather at times of ripening, would cause grapes to crack open ever so little, and the bees would clean them out. In the whole five years I failed to find a single case where bees did actually bite open the skin of fruit and destroy it; but if there is the least opening in the skin from any cause, and the flow of honey is scarce, they will clean out all damaged grapes, but will not visit fruit of any kind if honey is plenty.

But I ask, is it not a benefit, in place of a damage? None of us want to pack fruit in a damaged condition, grapes especially; for, if on a cluster of grapes are only a few cracked ones, it will spoil the whole cluster and all others they come in contact with, if they are kept long. I have seen thirty varieties of grapes; some very early and some very thin-skinned, and I cannot get my bees (and I have had 4 varieties) to touch them. I have cut fine clusters of very ripe fruit and placed on the platforms of the hives, and the bees would go over and around them. I then cut small openings in a few berries, and in a few moments they were covered with bees, cleaning them out. After finishing all those out, they went all over the sound ones, but did not cut one of them. I made pin holes in a few of them with the same results; all so treated were cleaned out. I had some very thin-skinned grapes sent me for trial, but with the same results as before—none were touched unless first punctured.

I suspended a cluster of grapes under a tree and poured sugar syrup on it; they took all of the syrup, but did not damage the cluster, until a wasp managed to bite three berries before I could kill it; those three the bees finished. In conclusion, I must say that with the many different experiments covering a space of 5 years, being surrounded by bees and affording them every opportunity of doing damage, and failing to find them doing any, I think those who condemn the bees had better experiment for themselves and ascertain whether the bees do them any damage or not; they may come to the same conclusion, as the good people of Massachusetts, who years ago thought the bees were a damage to their fruit, and had them banished, but finding their fruit began to decrease, and of a poor quality, were only too glad to have the law repealed, and get the bees back again, when their fruit began to improve.

The field is broad; let all those who have their doubts carefully experiment for themselves. Do not jump at conclusions, and what is done, let the work be careful and thorough. Dr. Southard grows a great many thin-skinned grapes, and had never known sound fruit to be injured, and damaged fruit he does not value. Mr. Jones said he would give \$15 if any one will show him a queen whose bees will puncture grape skins. Mr. Balch said that no one can tell to whom trespassing bees belong, and if bees were banished from the State, the loss to horticulturists would be greater than the damage done by them. Dr. Ashley recommended for bee-stings a solution of iodide or bromide of calcium.

Dr. Southwick then addressed the Convention, as follows:

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#### A Few Mistakes of a Few Bee-Keepers.

It is a mistake to hold all rules in bee-keeping invariably correct; for rules in bee-keeping, like rules in spelling, have more exceptions than cases under the rule.

It is a mistake to take any man's opinion without experimental knowledge and his reasons for the same; for one good reason founded on experience is worth more than all the opinions in the universe.

It is a mistake to follow the ways, or adopt the hive of a successful bee-keeper without practical reasons for the same; for good locality, or some unknown cause, may produce the success in spite of his bad management and bad hive.

It is a mistake that bee-keepers ought not to take the benefit of the patent laws, as well as others, and thereby be enabled to get a royalty sufficient to pay them for their time and expense of getting up the improvement; if we could get up special donations, through special Providence, we might then dispense with the benefit of patent laws, but we are not all thus favored.

Concerning dysentery or the cause, one may say it is confinement, another bacteria or bee-bread, while I am satisfied, and by the postals I have received, I think some others are, too, that starvation will sometimes produce it. But it is a mistake to say that any one thing is the sole cause, for it is evident there are many causes, and frequently a variety of causes, for it is quite probable that with the bee, as with the human, anything that will change the action of the system so that instead of taking from the alimentary canal and furnishing the system nourishment, it takes from the system and throws into the canal, will produce dysentery.

Concerning frames and hives, Mr. A. I. Root would not use any but the Langstroth frame and hives to fit, while I would not use a frame that I had to hang in the hive, or a hive that I could not move the end-board together or apart, or take them out at pleasure, and thus increase or lessen the size as I saw fit; but it is a mistake for either of us to claim that ours is the *ne plus ultra* of all hives, for there may be many as good, and some far superior to ours.

It is a mistake to follow instinct instead of reason; instinct is the same old way—reason invents, compares and selects the best; instinct was as perfect a thousand years ago as today—reason will continue to improve, but will never perfect; instinct indicates straw and box hives, also fire and brimstone—reason indicates comfortable hives and handy frames, also justice and mercy.

It is a mistake that because a colony winters well in a hive that has a crack wide open from top to bottom, that all hives need that ventilation; for a strong young colony will winter, notwithstanding this unreasonable exposure.

It is a mistake to have a two-inch space above the frames for the heat and bees to get up into, when the heat and bees are required among the combs to keep them warm, so that the bees can get over them and feed when the weather is cold, and not freeze in the operation.

It is a mistake to get up a hobby of any kind, and then drive everything else off the track that it cannot load.

It is a mistake to accept all the theories of bee logic as infallible, such as fertilization of queens, and the like; for I had a queen when hatched lacked about half of one wing, yet in due time she became fertilized and filled the hive with bees.

It is a mistake to write long, windy articles for our bee-papers, that are noted only for their big words, fine turned sentences, and extreme length, and if they contain an idea, it is lost in a wilderness of words, and the reader takes the length of the article for the weight of argument, and concludes the writer has made a point.

It is a mistake that we meet here in convention only to see old friends and

make new ones, to hear the different addresses and essays, make comments on them, ask and answer a few questions, and have a good time, when in addition we should have the experience of all the members on the different subjects of bee-keeping written out in a short, comprehensive style, without comment, and these, with the essays and lectures, and full proceedings of the Convention, printed in pamphlet form and distributed to the members, or sold to outsiders for enough to cover the cost of printing, then we would have a record that would be valuable to refer to afterwards.

It is a mistake to offer, and a much greater mistake to accept, a reward for breaking off the filthy use of tobacco; for a man that will not get up out of that miserable, soul-debasing, health-destroying, clothes-besmearing, breath-polluting, sense-benumbing, brain-befuddling, nerve-poisoning habit without a reward, but will for ever sink himself too low for any human society, and the whole looks to me like the proceedings of a protracted meeting I once heard of, where they offered a ten cent chromo to all that would come forward and get religion.

The Secretary read the following from Mr. W. Z. Hutchinson, on

#### Rearing and Selling Queens.

Some apiarists have asserted that the so-called "dollar queens" could not be reared at a profit. I have been engaged in the business during the past four years, and have never cleared less than \$15 per colony, the average profit for the four years being about \$18 per colony. As I have been so successful, perhaps the members of the conventions would like to know how I have conducted the business.

I have learned that nothing is gained by commencing operations too early in the season. Colonies are weakened, brood is chilled, queens are two or three weeks old before they begin to lay, in fact, there are nothing but unpleasant features connected with commencing before the warm weather has really come to stay.

I think a small frame best for queen rearing. If it were not that I might sometime wish to give up the queen business, and go to raising extracted honey, I should adopt a frame not more than 10 inches square. I use the American frame.

For nucleus hives, I use full-sized hives, putting in division boards, and having a nucleus in each end of a hive. Usually about the 10th or 15th of May, I put a nice, clean, light-colored worker-comb in the center of the colony, having the queen from which I wish to breed. In 3 or 4 days I generally find this comb filled with eggs, and the first-laid eggs beginning to hatch into larvae. I now remove the queen and all of the brood from some strong colony, shaking the bees from the brood combs back into the hive, and giving the brood to the weakest colonies. The queen is either sold, or given to a nucleus prepared expressly for that purpose. The comb of eggs and larvae from the choice queen is now placed in the center of the queenless and "broodless" colony. I usually cut a few small holes in the comb, just where the eggs are beginning to hatch, as it gives the bees better opportunities for building queen cells. After removing the comb of eggs from the colony having the choice queen, its place is filled with another nice comb, or else a sheet of foundation. In 3 or 4 days this comb will be filled with eggs, and can be removed and given to another queenless colony, and its place again filled with a sheet of foundation. By the time that the sheet of foundation, last inserted, is drawn out and filled with eggs, the first lot of queen cells will be ready for the lamp nursery. I seldom allow a colony to build more than two lots of cells without giving it young bees. Two or three days before I expect the first lot of queens to hatch, I start as many nuclei as there are cells. Early in the season I seldom start more than



one nucleus from each colony, and I do this by taking three combs with the adhering bees, and putting them in a nucleus hive. At least one comb should contain brood. As the weather becomes warmer, the strongest of these three-frame nuclei are divided.

I consider it important to always have on hand a large stock of queen cells, even if I occasionally have to destroy young queens. A breeder cannot rear "dollar" queens at a profit, if he allows some of his nuclei to stand queenless several days for lack of queen cells. When honey is coming in plentifully, I prefer to put a young queen upon the combs of a nucleus at the same time that I remove the laying queen, but when there is a scarcity of honey, this plan does not seem to work so well, as many of the young queens are killed by the bees.

One other point I also consider important, and that is that no nucleus should remain a single day without unsealed brood. Attention to this saves a world of trouble, and largely increases the profits.

But rearing queens is one thing, and selling them is another. A man may rear the best of queens, but unless he can sell them, his labor is lost. Remember that it is only by the strictest attention to business, that the rearing and selling of queens, at the present prices, can be made profitable, and, in my opinion, the selling is of as much importance as the rearing.

The breeder of untested queens ought always to have orders on hand, so that queens can be shipped the very day that they are ready, as, after a queen has filled the combs of a nucleus with eggs, she is kept only at a loss. "But," says one, "how can this state of affairs be brought about? we cannot compel people to send in orders whenever we need them." Very true; but did you never notice that there seems to be a peculiar something about some breeders, and the manner in which they advertise, that captivates the public heart at once? The orders come pouring in, and the trouble is not in finding customers, but in rearing queens fast enough to supply the demand. But, you say, all of us have not such a "taking way" or business tact. Certainly not; and for this reason, I would advise all those who think of entering the ranks as queen breeders, to not go into the business very heavily at first. It is better to spend \$40 or \$50 in discovering that rearing and selling queens is not your fort, than it is to spend five times that amount in acquiring the same knowledge. It is better to have more orders than queens, because the money can be more easily returned than purchasers can be found for surplus queens. And, by this way, if you wish for plenty of orders, then when a customer says, "Send my queen by return mail, or else return the money," do just exactly as he says; do not wait a week or two, thinking that you may be able to "squeeze out" a queen for him in a few days, and that it will be all right in the end. Were I that customer, it would be the last queen that you could sell me. Don't advertise until you have some queens on hand. Let your advertisement be plain and straightforward. If you must exaggerate, do it in filling orders. That is, do a little more for your customers than you have agreed to do. If you cannot fill an order at once, tell your customer at once why you cannot, and when you think you can fill it. If he does not wish to wait so long, he can order the money returned. Answer every inquiry promptly, kindly and plainly. After doing your very best, there may arise some trouble or misunderstanding. At such times, try and look at the matter from your customer's standpoint, as well as from your own, and practice the golden rule.

W. Z. HUTCHINSON.  
Rogersville, Mich.

Mr. B. Walker had been successful in using a nursery for cells made in the top of a chaff hive, and kept warm by the bees.

Mr. Heddon then addressed the Convention on "Comb Foundation," as

printed in last week's BEE JOURNAL, on page 395.

Mr. Root believed that the Given press will supersede other machines.

Mr. Heddon uses strong lye for a lubricator.

#### EVENING SESSION.

The evening session was opened by Prof. Cook, with his address on "Crumbs Swept up from the National Convention."

Mr. Jones believed that in many cases one-third of the crop of honey was lost by being eaten by drones.

Dr. Kellogg addressed the meeting on "Adulteration of Food and Honey." Honey is the first sweet known, and is composed partly of natural grape sugar, contains some pollen, and is stored by the bees with but little, if any alteration. The value of sugar as an article of food is very great; it assists in the production of heat and fat, but does not enter into the solids of the body. When starch is taken into the body, it is largely converted into sugar. Sugar is very digestible. The odoriferous qualities of honey are an important element in it; they are generally valuable, though sometimes injurious; such cases are generally due to an idiosyncrasy in the person. Cane sugar is the purest form of sugar. Honey is very valuable in some cases of sickness. If honey is adulterated with glucose, the fraud may be detected by the use of a warm solution of barium, which, if mixed with it, will cause a milky appearance. The honey should be thinned with water, which should be perfectly pure; if there is lime in it, the effect will be the same, although the honey may be pure. The speaker said that it had never been demonstrated that glucose contained any nourishment, and he believed that the opposite was the case. He thought its value for food should be determined by practical tests, rather than chemical analysis. Glucose is made by the action of sulphuric acid upon starch or woody fibre, and the acid is, of course, injurious, if not all extracted. He cited an instance where it had eaten the cork in a jug of golden drip syrup. Such action on the stomach is dangerous.

It was essentially innutritious and unwholesome. All the syrups now offered in the stores are adulterated with liquid glucose, and all the sugars except confectioners' A, with dry.

Mr. T. G. Newman then asked Dr. Kellogg to explain the difference between the articles known to commerce as glucose and grape sugar. He replied that there was no difference, except that the liquid was called glucose and the solid was named grape sugar, to distinguish them commercially. Both were manufactured from the same material and alike, with the single exception of the addition of other chemicals to solidify that designated as grape sugar.

Dr. Ashley had noticed many cases of sickness and stomach disturbances produced from this cause. Confectioners' A sugar is always pure, and any other that has coarse crystals. It had been found that bees will starve on glucose.

A. I. Root thanked the Doctor for his able and instructive address. It had more than paid him for his trip from Ohio.

Dr. Southwick said he had visited the glucose factory in Buffalo, N. Y., and was told that they used from 8,000 to 10,000 bushels of corn per day, and were enlarging their works. A commercial traveler called on them to solicit advertising. They said "they did not advertise."

Mr. Heddon: The first I heard of glucose I thought it, perhaps, worse than others—so white, and as clear as water, very thick, and a dangerous article, as it could be so readily used in adulteration.

Prof. Cook: I am glad to hear the remarks of Dr. Kellogg. I teach, in the college, that the grape sugar of commerce and the grape sugar of honey are not the same. Our friend Mr. Root (and I don't believe he is to blame) has talked with the factories,

and they call one grape sugar and the other glucose.

Mr. Newman: I admit that the phrase "Chicago honey" is a by-word. The jars are all adulterated, yet pure honey is sold there by hundreds of tons. Respecting adulteration, I have ever opposed it, and shall always continue so to do. Honey is but in its infancy. The demand will soon be such that all the bee-keepers of America cannot supply it. The fact is America has the flowers which make the best grades. In regard to the use of that trash, called glucose, for any purpose in the apiary, I would say, now and forever, "Taste not, touch not, handle not."

A. C. Batch. The odor of honey may be kept indefinitely, by putting it in cans and hermetically sealing it.

Mr. Heddon. Bee-keepers do not adulterate honey; it costs too much. It is a nice trick to adulterate it; the mixing is a trade by itself. We do not want jars for honey; they cost too much. Honey will sell in cheap paper or other packages.

Dr. Whiting. To liquefy honey set the jars on a board in the stove-oven, and let them heat slowly. The jars remain clean and the labels bright.

Prof. Cook hoped all our people would act and speak against adulteration all the time. Mr. Newman, of Chicago, and Mr. Muth, of Cincinnati, had done much to build up a fine staple trade in extracted honey.

Mr. Haikes. Let us form ourselves into a committee of the whole, and sell only pure honey.

Dr. Ashley. Medical men are finding new diseases of the stomach which they cannot explain. They are found especially among people using cheap sugars.

Prof. Cook offered the following:

*Resolved.* That we urge the editors and publishers of our bee papers to speak and act against the use of glucose or grape sugar, and the adulteration of honey. Adopted unanimously.

Mr. Newman made a few pleasant remarks, which were well received; he said Solomon's advice was right when he said: "My son, eat thou honey, for it is good."

A resolution of thanks to Dr. Kellogg for his address was adopted, with a request that he furnish a copy for publication. Adjourned.

#### FRIDAY MORNING SESSION.

The session opened with a discussion about bee-publications. The fact was brought out that they are considered necessary, and many of those present were willing to pay any price necessary for them. One gentleman had saved \$20 by watching the market reports.

Mr. T. G. Newman gave an address on "The Future of the Honey Market." He said he had given the subject a great deal of thought, and believed the market, to be developed, should be kept constantly supplied. He thought that extracted honey is to become the staple for the masses, and that comb honey, being higher priced, would be used more by the rich, although it was but little, if any better. The market may be extended almost indefinitely, if properly managed. A few years ago the bee-keepers of California were producing more than could be sold at home, and the price became very low. By sending samples over the country, the demand became so great as to leave no honey for the use of the producers themselves. California honey is now in demand everywhere. A proper working-up of the market had accomplished this. He expected to see the time when honey would be sold at the door of apiaries, instead of going through the hands of dealers. He strongly advised every honey producer to develop his home market, and cited instances where great good had been done it. Our foreign market for honey is developing fast, and was destined to be very large. Wherever honey is introduced, it sells afterwards on its merits. Honey must be put in marketable shape, and this is rapidly growing to

be the case. He thought that a bright future was very near.

When honey can be sold at the door of every apiary, it is a staple. Men will look the country over, buy the honey, and all will be sold and distributed. Honey is good to keep. It is not perishable. It can be transported to foreign markets.

Mr. Jones, Ontario, found that in Canada small packages sold best; sells best in tin cans; exhibited five sizes of cans, holding from 2 ounces to 5 lbs. The five cent packages sold the best at the fair at Toronto. The small cans brought in larger orders. He sold 15,000 lbs. at home and 30,000 at the fair. He said small packages were best; he used tin cans. Small packages prepare the way for large ones.

An essay was then read on

#### Something about Foul Brood.

Stock-breeders or fanciers of any kind desiring to meet with success must keep their eyes open at all times. One may be favored or injured by lucky or unfortunate circumstances, but success in every business is generally the result of intelligent management and prompt attention. In the same degree the reverse is caused by ignorance or inattention.

Nothing requires more the attention of bee-keepers than to guard against the spread of foul brood. Small is the trouble to cure a colony or two, if discovered in time, but the whole apiary is in danger, just as sure as a single colony is overlooked. If infested in the spring, every colony will, very likely, be diseased by the approach of winter, and no neighboring apiaries will be safe. In essays, on former occasions, I have spoken of the dangerous and insidious character of foul brood, and gave also simple and complete remedies. Interested parties will find records of the same in our bee papers of the present and past years, and save me unnecessary repetition. My object now is to admonish our friends to be watchful for their own sake and for our common welfare, and to show how easy, with a little care, great trouble and loss may be prevented.

You will remember my statement at the National Convention, at Lexington, Ky., of my having a few hives infested with the disease during last summer, and of their cure. I expected to have had foul brood rooted out once more in my apiary, and, no doubt, I was correct at the time; but perhaps an invisible little speck, a fungus, was hidden in the fissures of the table on which an infested hive had stood, or hidden somewhere on my bee-roof, until it was carried into the hive on the feet of a bee, and brought into contact with a larva. The colony had a number of combs with brood, only two of which contained a few cells with diseased larvae. I exhibited the worst comb at our National Convention at Lexington, last fall, and very few of those present would have recognized as diseased a comb like it, if found in one of their hives. It was, nevertheless, the most dangerous kind of foul brood. On my return home I put the bees into a clean hive, on foundation, and fed them with honey and salicylic acid as described at the meeting. They had commenced nicely to build out their foundation, but it being late in the season, I exchanged them for combs well filled with capped honey about a week afterward.

On preparing my bees for winter, I discovered, in two more hives, one or two cells each containing larvae diseased with foul brood. The combs of these three colonies, and all the combs that were in their hives during summer, will be rendered into wax, and my first care in early spring, when bees commence to breed, will be to place a jar of honey above them prepared with salicylic acid. Those few diseased cells would have done no harm this winter, but the trouble they would have given me by next summer can only be estimated by a person acquainted with the disease.

Larvæ dead from any cause will de-



cay in the cells if not removed, diffuse the same stench, and will have about a uniform color and appearance, differing only according to their age; but if dead of foul brood, the skin decays about the same time with the body, which causes the ropishness of substance, and the inability of the bees to remove it from the cells. Larvæ dead from other causes may have decayed to a soft watery mass, but when a pin or some similar instrument is used, one can remove it easily, as the skin acts like a sack to the soft body.

I maintain the idea that foul brood is an imported disease, and spreads by infection, and not by chilling of brood or other surrounding circumstances indigenous to this country. I fear that this dread disease, now among us, cannot be rooted out any more. It may show itself at one place or another before we are aware of it; but by due vigilance it can be kept from spreading, and none of us can be too careful about it. CHAS. F. MUTH.

Cincinnati, O.

Mr. Jones had thoroughly tested salicylic acid and had found that it had no effect; he believed that nothing would kill it but heat. He thought it could be as easily managed as the bee moth. A discussion followed.

President Cook said that in many cases we must understand pure science in order to understand applied science, and thought that scientific investigation may throw light on the disease.

Mr. Townley. I have lost 60 to 70 colonies, and think a bonfire the quickest and cheapest cure. Total cremation.

Mr. Jones. No use in cremating. Dr. Whiting. Have had foul brood, and caution bee-keepers not to take it to their hives; it will not do to handle it carelessly. Put the bees in a box 48 hours, then put them in another clean hive with comb foundation. I kept one hive, cleaning out combs, and hatching the bees that could hatch, and the bees made a large amount of surplus honey. I succeeded in curing my apiary.

Mr. Hubbard. Honey does not show foul brood, but needs to be boiled if fed to bees.

Dr. L. C. Whiting then addressed the Convention on

#### The Coming Bee Hive.

We hear a good deal about the coming bee, and but little of the coming hive, in which we can best secure the product of bee industry.

Permit me to call your attention to a reversible frame hive, which is being used by some of the best bee-keepers in the country. This hive has all the advantages of the Langstroth and Quinby hives combined, at the increased expense of only one cent a frame over the Langstroth. I will state as briefly as I can some of the advantages of this hive.

The frames stand on a shoulder at the bottom of the hive, and when properly made, the metal corners are the only places where the frames touch each other on the hive. If you wish to fasten the frames for safety in shipping, all you have to do is to slip in a couple of wedges and crowd the frames close together and all is firm and secure. As they touch only at the corners, there is no danger of the frames coming together and destroying the bees.

Whenever the bees store too much honey in the upper part of the comb, the frame should be turned over, placing the honey at the bottom, and the brood at the top. If you have selected the right time to reverse the frame, the bees will remove the honey to the boxes, and fill its place with brood. You have thus gained two important points—your honey in the boxes, and an additional amount of brood.

Some of the handsomest frames of brood that I have ever seen were obtained in this way. The important time to reverse the frame is just before the close of a good yield of honey. If deferred too long, the bees sometimes refuse to carry the honey to the

boxes. When the combs are turned over, the bees make them equally secure at top and bottom, and all parts are toughened and strengthened by having brood reared in them, thus making a very desirable frame for extracting from. Those who use this hive, claim that they get from 10 to 15 pounds more honey in the boxes than is obtained by the usual method, and a large increase in brood.

There are other advantages claimed for this hive, but they do not appear to be so well founded as those mentioned. Mr. Van Deusen, of Sprout Brook, N. Y., is the originator of this frame, and I hope will give us more light on the subject through the BEE JOURNAL.

Mr. Harrington said that after 9 years' experience with alsike clover, he had found he could grow it on heavy land if it was well worked, and it is a very valuable bee-plant. It is a plant for both farmers and bee-keepers.

#### AFTERNOON SESSION.

The session was opened with the following resolution, which was adopted unanimously:

*Resolved*, That the executive committee be requested to procure 200 copies of the proceedings printed, and that a copy be sent to each member.

The following cities were voted upon for place of meeting next year: Grand Rapids, 20; Detroit, 21; Kalamazoo, 23. The latter place was chosen.

The following officers were elected for the following year: President, James Heddon; Vice Presidents, Prof. A. J. Cook and Dr. Southard; Secretary, T. F. Bingham; Treasurer, T. M. Cobb. The following gentlemen were appointed a committee to attend to the interests of apiarists at the next State Fair: H. D. Cutting, Prof. A. J. Cook, Dr. O. H. Ranney, A. B. Weed, James Heddon and Byron Walker. It was voted to request Messrs. Jones and Newman to attend the next meeting.

The following essay was read on

#### Extracted Honey.

I think that the best essay I can write, on the above subject, is to detail what we have done and what results we have obtained. Accustomed as we had been, in France, to see candied honey sold as a staple article, we could not understand why it could not be readily sold in this country, since it is a purer article than comb honey, not being any more mixed with beeswax, and since it can be sold cheaper, and shipped without any trouble. As soon as we heard of the discovery of Maj. Hruschka, the inventor of the honey extractor, we hastened to have a machine made and to use it.

But we soon found that, while to extract honey was easy, to sell it was the most difficult part of the job, the granulating of our honey hindering our sales. Several lots in glass jars were returned to us on account of its having become similar in appearance to lard of poor quality.

These difficulties did not deter us from our undertaking, which was rendered more difficult yet by articles published in the bee papers, in which the granulating of honey was considered as a defect, which the bee-keeper had to correct by boiling it. We had also to contend with the adulterators, who were quick in saying that the candying of our honey proved that it was made from sugar.

We then wrote, in the bee papers, that the granulating of honey was the best test of its purity. This statement, at first, met several denials, but as truth sooner or later prevails, our assertion was soon after indorsed by several societies of bee-keepers, and is now admitted as a positive fact.

After becoming disgusted with glass jars, in which candied honey does not look to the best advantage, we tried wooden pails; but their capacity was too large for retail. Then we used tin pails, like those in which the workmen carry their dinner. These pails, weighing 10 lbs. gross, were found too large

yet, so we divided them in pails holding 5 lbs., 2½ lbs., and 1½ lbs. gross. These pails are now manufactured in several States of the Union, where we sent samples for patterns. We were also led to have them manufactured for sale, and the increasing demand for them shows that the sale of extracted honey is now comparatively easy. Let me here advise you to adopt uniform sizes for these pails, as did Mr. A. H. Newman, who sells the same sizes that we do, even if you have a few cents more to pay per hundred to get the uniformity, for the uniform packing of an article tends to make a staple of it. The manufacturers of other articles sold in the groceries are careful not to vary the size; we had better imitate them in this respect.

As a result of our efforts, we now begin to foresee how large will be the use of extracted honey in this country. Our extracted honey is every year coming more and more into demand. We have ascertained that a city of 12,000 inhabitants, in which it was at first difficult to sell 500 lbs. of extracted honey, can consume now 5,000 lbs., yet as it is less than a pound yearly for every inhabitant, we can look for greater sales in the future. But to obtain such increase in the demand, we have to observe some precautions, which may be thus enumerated:

1. Do not put on the market unripe or dirty honey; have it well skimmed and strained.
2. Put it in clean tin pails, provided with neat labels, indicating your address and the weight, and warranting its purity, proclaiming also that granulation is the best test of its purity.
3. If you cannot sell your pails, put some of them in the best groceries of your neighboring towns, to be sold on commission, and to be returned if not sold or not found as represented.
4. Do not ask fancy prices. All our crop of this year, a little above 14,000 lbs., will net about 12 cents a pound, and we find that this price pays well.

If most bee-keepers would adopt our method, we predict that the honey crop of this country would be easily sold at home, even if it was ten times greater than it is now.

Hamilton, Ill. CHAS. DADANT.

Several members deprecated the use of the word "strained" as applied to honey, when "extracted" was meant. It was declared by many that when honey was stored in large quantities, the best of it was found to be at the bottom of the cask. Any particles of wax that there may be in the liquid honey may be caught by skimming or passing the honey through a piece of cheese-cloth.

Mr. Heddon has found that honey will ripen after being taken from the hive; he stores it in crocks. He said it is a great deal of trouble to the bee-keeper to liquefy honey on a large scale after it is candied, and advocated making a market for candied honey.

Mr. Balch said that honey would keep perfectly if kept in air-tight jars. He recommended honey and honey-candy for children, in preference to that for sale in the stores.

President Cook said honey may be extracted when green, if it is kept in a warm, dry place, where it will ripen. Mr. Muth's opinion was the same.

Mr. Bingham showed a comb containing capped honey, most of which had evaporated by reason of the warmth of the hive.

Dr. Ranney had found that extracted honey would lose nothing if well ripened, and that thick honey would absorb moisture. Some kinds of honey will candy much more quickly than others. This honey will candy before that which is thick.

Mr. Bingham insisted that honey should be well ripened before being put upon the market. He thought that green honey would injure the market.

Mr. A. I Root addressed the Convention on "Selling Bees by the Pound." He said that it was a comparatively new industry, and they are shipped even long distances. A person could commence the business of keeping bees on a very small scale.

He had known a half pound of bees and a good queen to make a good colony by fall, and yielded some honey; they were provided with combs. When whole colonies are sent by express, the frames should be wired, and the expense of carriage was burdensome. He can ship bees cheaper and more safely in a small wire cage than when in the hive. They were provided with water for drink and sugar for food; this is better than honey. The best way to introduce queens was to buy a few bees with her and turn them all loose on a few frames of hatching bees and honey. He had seen two pounds of bees and two queens in the spring make 4 good colonies by fall. They had had good care. The manner of putting the bees in the traveling cage, is to put the cage on scales and insert the small end of a large tin funnel; the bees are then shaken into the large end. The queen is put in last. Mr. Jones considered bees worth as much as \$4 a pound before the harvest, and 50 cents after.

[Concluded next week.]

#### Local Convention Directory.

1882. Time and Place of Meeting.
- Jan. 10—Cortland Union, at Cortland, N. Y. C. M. Bean, Sec., McGrawville, N. Y.
  - 10—Eastern N. Y., at Central Bridge, N. Y. N. D. West, Sec., Middleburgh, N. Y.
  - 11, 12—Nebraska State, at Ashland, Neb. Geo. M. Hawley, Sec., Lincoln, Neb.
  - 17, 18—N. W. Ill. & S. W. Wis., at Freeport, Ill. Jonathan Stewart, Sec., Rock City, Ill.
  - 17, 18—N. E. Wisconsin, at Berlin, Wis. T. F. Turner, Sec. pro tem.
  - 24, 25—Indiana State, at Indianapolis, Ind.
  - 25—Northeast, at Utica, N. Y. Geo. W. House, Sec., Fayetteville, N. Y.
  - April 11—Eastern Michigan, at Detroit, Mich. A. B. Weed, Sec., Detroit, Mich.
  - 25—Texas State, at McKinney, Texas. Wm. R. Howard, Sec.
  - 26, 27—Western Michigan, at Grand Rapids. Wm. M. S. Dodge, Sec., Coopersville, Mich.
  - May—Champlain Valley, at Bristol, Vt. T. Brookins, Sec.
  - 25—Iowa Central, at Winterset, Iowa. Henry Wallace, Sec.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

**To the Bee-keepers of Indiana.**—At the last meeting of the State Bee-keepers' Association, the Society was changed to a delegate organization, and one Vice President was appointed for each county of the State, whose duty should be to organize the various counties into auxiliary County Associations. I would, therefore, request all persons interested in scientific bee-culture, to unite in their respective counties and organize themselves into auxiliary County Associations, subject to the State Association. Each member of the County Association by paying to the Secretary of his County Association 50 cents, becomes a member of the State Association, and is entitled to the printed transactions of the proceedings of the State Association, thereby getting a full return for all money invested. Each County Association will be entitled to one delegate for every five members, and one for every additional fraction of more than half of this number. Copies of the constitution and by-laws of the State Association, together with any other information in connection with the organization can be had on application to the Secretary, Frank L. Dougherty, at Indianapolis. The Association will meet at Indianapolis, Jan. 24 and 25. A full delegation and a good meeting is expected.

JAS. H. OREAR, Pres.

The annual meeting of the N. W. Illinois and S. W. Wisconsin Bee-keepers' Association, will be held in Temperance Hall, Freeport, Stephenson Co., Ill., on Jan. 17 and 18, 1882.

JONATHAN STEWART, Sec.

The Indiana State Bee-keepers' Association is called to meet in annual session, Wednesday and Thursday, Jan. 24 and 25, 1882, in the rooms of the State Board of Agriculture. By order of EXECUTIVE COMMITTEE.



## Special Notices.

Single copies of the JOURNAL sent postage paid for 5 cents each.

Advertisements intended for the BEE JOURNAL must reach this office by Saturday of the previous week.

Ribbon Badges, for bee-keepers, on which are printed a large bee in gold, we send for 10 cts. each, or \$8 per 100.

Articles for publication must be written on a separate piece of paper from items of business.

Photographs of prominent Apiarists—Langstroth, Dzierzon, and the Baron of Berlepsch.—Price 25 cents each.

When changing a postoffice address, mention the old as well as the new address.

Those who may wish to change from other editions to the Weekly, can do so by paying the difference.

Constitutions and By-Laws for local Associations \$2.00 per 100. The name of the Association printed in the blanks for 50 cents extra.

The Color and Lustre of Youth are restored to faded or gray hair by the use of Parker's Hair Balsam, a harmless dressing highly esteemed for its perfume and purity. 49w4

A Sample Copy of the Weekly BEE JOURNAL will be sent free to any person. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

Examine the Date following your name on the wrapper label of this paper; it indicates the time to which you have paid. Always send money by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, or local checks, are not taken by the banks in this city except at a discount of 25 cents, to pay expense of collecting them.

Rheumatism is the most terrible disease that has ever afflicted humanity, yet it instantly yields to the powerful drugs that Kendall's Spavin Cure is composed of.

It would save us much trouble, if all would be particular to give their post office address and name, when writing to this office. We have letters (some inclosing money) that have no name, post-office, County or State.—Also, if you live near one postoffice and get your mail at another, be sure to give the address we have on our list.

It will pay to devote a few hours in getting up a club for the BEE JOURNAL. Read the list of premiums on another page, and take advantage of the fall gatherings to get up clubs.

It is Worth Remembering that nobody enjoys the nicest surroundings if in bad health. There are miserable people about to-day with one foot in the grave, when a bottle of Parker's Ginger Tonic would do them more good than all the doctors and medicines they have ever tried. See adv. 49w4

We have a SPECIAL EDITION of the Weekly BEE JOURNAL, just as it will be published in 1882 (16 pages), for distribution at Fairs, Conventions, etc. Any one who may desire to distribute them to bee-keepers will be supplied free, in any quantity they may be able to judiciously use.

Premiums.—Those who get up clubs for the Weekly BEE JOURNAL for 1882, will be entitled to the following premiums. Their own subscription may count in the club:

For a Club of 2, a copy of "Bees and Honey."  
" 3, an Emerson Binder for 1882.  
" 4, a Register for 50 Colonies, or Cook's (Bee) Manual, paper.  
" 5, " " cloth.  
" 6, Weekly Bee Journal for 1 year, or Apilary Register for 200 Col's.

Or they may deduct 10 per cent in cash for their labor in getting up the club.

Binders for 1882.—We have had a lot of Emerson binders made especially for the BEE JOURNAL for 1882. They are lettered in gold on the back, and make a nice and convenient way to preserve the JOURNAL as fast as received. They will be sent post paid by mail for 75 cents. To all who send during this month (December) for the JOURNAL and binder for 1882, we will send both for \$2.50. We do this to encourage all to get the binder and preserve the BEE JOURNAL for reference, and to save us the expense of removing the name from our type mailing machine, and then resetting it in January or February.

### Honey and Beeswax Market.

BUYERS' QUOTATIONS.

OFFICE OF AMERICAN BEE JOURNAL, Monday, 10 a. m., Dec. 19, 1881.

The following are the latest quotations for honey and beeswax received up to this hour:

#### CHICAGO.

HONEY.—The market is lively and prices steady. We quote light comb honey, in single comb boxes, 18¢@22¢; in larger boxes 20¢ less. Extracted 18¢@20¢.

BEEWAX.—Prime quality, 18¢@22¢. AL. H. NEWMAN, 972 W. Madison St.

#### NEW YORK.

HONEY.—The supply is full, and trade is lively. We quote as follows: White comb, in small boxes, 18¢@22¢; dark, in small boxes, 15¢@17¢. Extracted, white, 10¢@11¢; dark, 7¢@9¢.

BEEWAX.—Prime quality, 21¢@23¢.

THORN & CO., 11 and 13 Devoe avenue.

#### CINCINNATI.

HONEY.—Is in good demand here now. I quote: Good comb honey, in sections, is worth 18¢@20¢, on arrival. Extracted, 7¢@9¢, on arrival.

BEEWAX.—18¢@22¢, on arrival. I have paid 25¢ per lb. for choice lots. C. F. MUTH.

#### BOSTON.

HONEY.—1-pound combs are a desirable package in our market, and a large quantity could be sold at 24¢@26¢, according to quality.

BEEWAX.—Prime quality, 25¢.

CROCKER & BLAKE, 57 Chatham Street.

#### BALTIMORE.

HONEY.—But little on the market, and prices are not quoted.

BEEWAX.—Southern, pure, 21¢@23¢; Western, pure, 21¢@23¢; grease wax, 11¢.—Baltimore Market Journal.

#### INDIANAPOLIS.

HONEY.—New, in 1 or 2 lb. sections, 22¢@25¢.—Indianapolis Stock Review.

#### PHILADELPHIA.

HONEY.—The supply and demand are alike nominal.

BEEWAX.—Best light 23¢@25¢.—Philadelphia Merchants' Guide.

#### SAN FRANCISCO.

HONEY.—A thousand cases, small size, went forward this week by sailing vessel for Liverpool, shipped by a picking firm in this city. The southern coast steamer this week brought 200 cases. Receipts for December to date aggregate nearly 1,000 cases. Inquiry is light.

We quote white comb, 18¢@20¢; dark to good, 10¢@14¢. Extracted, choice to extra white, 8¢@10¢; dark and candied 11¢@13¢. BEEWAX—23¢@25¢.

STRAINS & SMITH, 423 Front Street.

#### CLEVELAND.

HONEY.—Comb honey has been a little dull for a week, but prices are unchanged. We sell best white 1 lb. sections at 22¢; 2d best, 20¢, and dark 18¢; 2 lb. sections, 17¢@20¢. Extracted, 12¢. In small packages; 11¢. in half bbls.

BEEWAX—23¢@25¢.

A. C. KENDEL, 115 Ontario Street.

#### ST. LOUIS.

HONEY.—Plentiful and slow for all save bright comb—this sells readily; comb at 18¢@22¢; strained and extracted 9¢@11¢. 10¢—top rates for choice bright in prime packages.

BEEWAX.—Selling lightly at 19¢@20¢.

R. C. GREER & CO., 117 N. Main Street.

### CLUBBING LIST FOR 1882.

We supply the Weekly American Bee Journal and any of the following periodicals, for 1882, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage is prepaid by the publishers.

	Publisher's Price.	Club.
The Weekly Bee Journal (T.G. Newman)	\$2.00.	\$2.00.
and Gleanings in Bee-Culture (A.L. Root)	3.00.	2.75.
Bee-Keepers' Magazine (A.J. King)	3.00.	2.60.
Bee-Keepers' Instructor (W. Thomas)	2.50.	2.35.
The 4 above-named papers	4.50.	4.00.
Bee-Keepers' Exchange (J.H. Nellis)	3.00.	2.75.
Bee-Keepers' Guide (A.G. Hill)	2.50.	2.35.
Kansas Bee-Keeper	2.00.	2.40.
The 7 above-named papers	6.50.	6.50.
Prof. Cook's Manual (bound in cloth)	3.25.	3.00.
Bees and Honey (T.G. Newman)	2.40.	2.25.
Binder for Weekly, 1881	2.50.	2.75.
Binder for Weekly for 1882	2.75.	2.50.

## Advertisements.

THE AMERICAN BEE JOURNAL is the oldest Bee Paper in America, and has a large circulation in every State, Territory and Province, among farmers, mechanics, professional and business men, and is, therefore, the best advertising medium.

## SEEDS FOR Honey Plants.

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## The Bee-Keeper's Guide;

OR,

MANUAL OF THE APIARY,

By A. J. COOK,

Of Lansing, Professor of Entomology in the State Agricultural College of Michigan.

320 Pages; 133 Fine Illustrations.

This is a new edition of Prof. Cook's Manual of the Apiary, enlarged and elegantly illustrated. The first edition of 3,000 copies was exhausted in about 18 months—a sale unprecedented in the annals of bee-culture. This new work has been produced with great care, patient study and persistent research. It comprises a full delineation of the anatomy and physiology of the honey bee, illustrated with many costly wood engravings—the products of the Honey Bee; the races of bees; full descriptions of honey-producing plants, trees, shrubs, etc., splendidly illustrated—and last, though not least, detailed instructions for the various manipulations necessary in the apiary.

This work is a masterly production, and one that no bee-keeper, however limited his means, can afford to do without. It is fully "up with the times" on every conceivable subject that can interest the apiarist. It is not only instructive, but intensely interesting and thoroughly practical.

Read the following opinions of the Book:

All agree that it is the work of a master and of real value.—*L. Apiculture, Paris.*

I think Cook's Manual is the best of our American works.—*LEWIS T. COLBY.*

It appears to have cut the ground from under future book-makers.—*British Bee Journal.*

Prof. Cook's valuable Manual has been my constant guide in my operations and successful management of the apiary.—*J. P. WEST.*

I have derived more practical knowledge from Prof. Cook's New Manual of the Apiary than from any other book.—*E. H. WYKOP.*

This book is just what everyone interested in bees ought to have, and which, no one who obtains it, will ever regret having purchased.—*Mich. Far.*

To all who wish to engage in bee-culture, a manual is a necessity. Prof. Cook's Manual is an exhaustive work.—*Herald, Monticello, Ill.*

With Cook's Manual I am more than pleased. It is fully up with the times in every particular. The richest reward awaits its author.—*A. E. WENZEL.*

My success has been so great as to almost astonish myself, and much of it is due to the clear, disinterested information contained in Cook's Manual.—*W. V. VAN ANSWER, N. Y.*

It is the latest book on the bee, and treats of both the bee and hives, with their implements. It is of value to all bee-raisers.—*Ky. Live Stock Record.*

It is a credit to the author as well the publisher. I have never yet met with a work, either French or foreign, which I like so much.—*L'ABBE DU BOIS, editor of the Bulletin D'Apiculture, France.*

It not only gives the natural history of these industrious insects, but also a thorough, practical, and clearly expressed series of directions for their management; also a botanical description of honey producing plants, and an extended account of the enemies of bees.—*Democrat, Pulaski, N. Y.*

We have perused with great pleasure this *code* *meum* of the bee-keeper. It is replete with the best information on everything belonging to apiculture. To all taking an interest in this subject, we say, obtain this valuable work, read it carefully and practice as advised.—*Agriculturist, Quebec.*

This book is pronounced by the press and leading bee-men to be the most complete and practical treatise on bee-culture in Europe or America; a scientific work on modern bee management that every experienced bee-man will welcome, and it is essential to every amateur in bee-culture. It is handsomely printed, neatly bound, and is a credit to the West.—*Western Agriculturalist.*

This work is undoubtedly the most complete manual for the instruction of bee-keepers which has ever been published. It gives a full explanation regarding the care and management of the apiary. There is no subject relating to the culture of bees left untouched, and in the compilation of the work Prof. Cook has had the advantage of all the previous knowledge of apiarists, which he uses admirably to promote and make popular this most interesting of all occupations.—*American Inventor.*

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